

Project Development and Environmental Analysis Branch
Project Data Sheets
Preliminary

<u>TIP No.:</u>	<input type="text" value="U-5760"/>	<u>Sent Date:</u>	<input type="text" value="August 18, 2016"/>
<u>WBS No.:</u>	<input type="text" value="46381.1.1"/>	<u>Revision Date:</u>	<input type="text"/>
<u>Federal Aid No:</u>	<input type="text"/>	<u>Meeting Date:</u>	<input type="text" value="September 21, 2016"/>
<u>Division:</u>	<input type="text" value="9"/>		
<u>County:</u>	<input type="text" value="Forsyth"/>		

<u>Project Description:</u>	<input type="text" value="Widen Big Mill Farm Road and SR 2649 (Hopkins Road) from I-40 Bus/US 421 to West Mountain Street (NC 66/SR 2377) and construct interchange at I-40 Bus/US 421."/>
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General Project Need:

Identified Need for and Purpose of Project (preliminary):

The preliminary purpose for this project is:

Reduce congestion.

Downtown Kernersville currently experiences peak hour traffic congestion, especially in the area around the interchange of I-40 Bus/US 421/NC 150 with S. Main Street. Addition of the Winston-Salem Northern Beltway (currently under construction) is anticipated to increase traffic through the S. Main Street interchange, which is the nearest access point to the Beltway (via I-40 Bus/US 421/NC 150) from this area. The new interchange and roadway connections will better distribute local traffic through the transportation network, decreasing volumes on existing local roads and interchanges.

Additional secondary benefits, or purposes, for this project include:

Improve mobility and access to major highways in west Kernersville.

The current roadway network is primarily “spokes” crossing through downtown Kernersville. This project would complete a segment of Kernersville Boulevard, a partially-completed loop around Kernersville. Kernersville Boulevard is proposed to improve mobility around and through Kernersville, providing a route connecting the existing “spokes” and reducing the need to travel through the downtown.

Access to I-40 Bus/US 421 and subsequent access to the Winston-Salem Northern Beltway (U-2579) is primarily via the S. Main Street interchange, and secondarily via the Linville Road interchange. This project would improve access to I-40 Bus/US 421, the Beltway, and Kernersville Road for the western half of the Town of Kernersville.

Accommodate economic development expansion within the area.

The area currently is home to a regional commercial center, the only heavy industrial area in the eastern side of Forsyth County, and several smaller office and business nodes. The proposed improvements would improve linkage of the southern and western residential areas to employment and commercial centers.

The purposes and needs listed above are consistent with the 2008 Town of Kernersville *Feasibility Study* (2008), Kernersville Thoroughfare and Street Plan (2011), 2012 Winston-Salem MPO *Comprehensive Transportation Plan*, and WSMPO 2035 *Long-Range Transportation Plan* (2013 Update).

Metropolitan / Rural Planning Organization:

Winston Salem Urban Area MPO

NEPA/404 Merger Candidate?:

☐ Yes ☐ No ☒ To Be Determined

Feasibility Study Completed?: ☒ Yes ☐ No Date of Study:

Town of Kernersville Feasibility Study (June 2008): "Widening of Big Mill Farm Road/Hopkins Road from I-40 Business to West Mountain Street Feasibility Study"

Project Schedule:

Type of Document:

Dates:

Environmental Document(s):

EA

FONSI

Spring 2018

Early 2019

Right of Way Authorization Date:

FY 2021

Let Date:

FY 2023

Cost Estimate:

Construction:

Right of Way:

Utilities:

Total Cost:

TIP Estimate:

\$24,852,000

\$1,918,000

\$230,000

\$27,000,000

Current Estimate:

* The STIP lists prior costs of \$2,700,000 for a total cost of \$29,700,000.

Design Criteria:

Length of Project:

Approximately 2.1 miles

Right of Way:

Existing:

Variable

Proposed:

Anticipated 80 ft to 110 ft, depending on traffic forecasts, number of travel lanes, and multimodal accommodations.

Type of Access Control:

Existing:

Hopkins Road, Big Mill Farm Road, and Harmon Creek Road – No Control

Proposed:

Hopkins Road, Big Mill Farm Road, and Harmon Creek Road – To be determined on road, Full Control at interchange with I-40 Bus/US 421

Roadway Typical Section:

Existing:

Hopkins Road – 2 lanes, undivided
Big Mill Farm Road – 2 lanes, undivided (part unpaved)
Harmon Creek Road – 4 lanes, median divided

Proposed:

- *Kernersville Feasibility Study* (2008): Recommends a 4-lane divided road with bike and pedestrian facilities.
- *Kernersville Thoroughfare and Street Plan* (2011): Recommended to use the NCDOT Complete Street “2 Lane Avenue” street type. Suggests applying context sensitive road design, and encourages public participation to recommend specific design elements.
- *WSMPO CTP* (2012): Recommends a 4-lane divided road with bike and pedestrian facilities.
- *WSMPO 2035 LRTP* (2013 Update): Recommends a 2-lane divided with bike and pedestrian facilities from Hopkins Road through new interchange. Does not include the Hopkins Road widening portion of the project.

Speed:

Existing Posted
Speed:

Hopkins Road – 45 mph
Big Mill Farm Road – 25 mph
Harmon Creek Road – no posted speed limit

Proposed Design
Speed:

Hopkins Road – 50 mph
Big Mill Farm Road – to be determined
Harmon Creek Road – to be determined

Bridge/ Culvert Inventory:

No bridges; minor culverts at stream crossings along Hopkins Road and Big Mill Farm Road

Functional Classification:

Hopkins Road – Major Collector
Big Mill Farm Road – Local Road
Harmon Creek Road – Local Road

Strategic Transportation
Corridor Information:

N/A

CTP/Thoroughfare Plan
Designation (Facility Type):
(see page 7)

Hopkins Road, Big Mill Farm Road, and Harmon
Creek Road:
2011 Kernersville Thoroughfare and Street Plan:
Minor Thoroughfare
2012 CTP: Proposed Boulevard, Needs Improvement

Air Quality Status: ☐ Non-attainment ☐ Maintenance ☒ Attainment

Horizon Completion Year (Long Range Trans. Plan):

2035

Typical Section in Compliance with
Conformity Determination?

☒ Yes ☐ No

Traffic (AADT):

(Based on 2012 CTP,
will be updated)

% TTST:

Year Range of Traffic

Current Year:

2013 (based
on NCDOT
AADT maps)

Hopkins Road:
9,100 vpd
Big Mill Farm Road:
400 vpd (2007 –
from Feasibility
Study)
S. Main Street:
36,000 vpd
Kernersville Road:
20,000 vpd

% Dual:

Design Year:

2035 (based
on 2008
Feasibility
Study)

Hopkins Road:
24,000 vpd
Big Mill Farm Road
and Harmon Creek
Road: 9,800 –
22,200 vpd

% DHV:

Design Standards Applicable: ☒ AASHTO ☐ 3R

Railroad Involvement:

Possible involvement; the Norfolk Southern railroad is parallel with West Mountain Street immediately north of the project

Utility Involvement:

Power, water, sewer anticipated

Other STIP Projects in the Area

STIP Project No.	Description	Right of Way Scheduled to Begin	Construction Scheduled to Begin
U-2579B	Winston-Salem Northern Beltway, Eastern Section, I-40 Bus/US 421/NC 150 to US 158	Complete	Under Construction
U-2579AB	Winston-Salem Northern Beltway, Eastern Section, I-40 to I-40 Bus/US 421/NC 150	FY 2018	FY 2021
W-5510	Safety Improvements, including raised median and turn lane: <ul style="list-style-type: none">South Main Street (SR 4315) from I-40 Bus/US 421/NC 150 to north of South Cherry Street (SR 4278)Old Winston Road (SR 2648) from west of Cherry Street (SR 4278) to South Main Street (SR 4315)	N/A	Under Construction

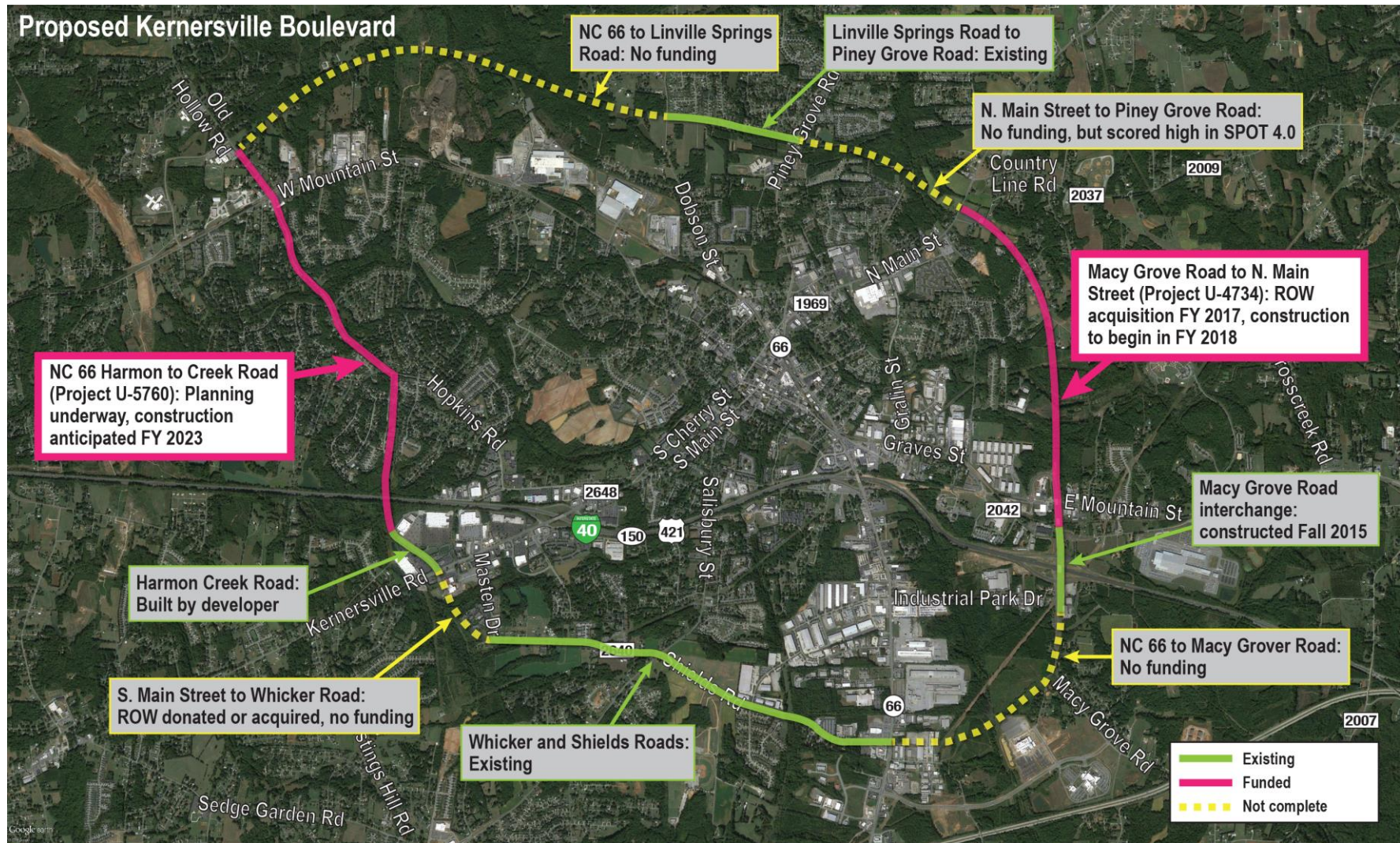
Source: North Carolina Department of Transportation, *State Transportation Improvement Program (NCBOT Amended 2016-2025 STIP – July 2016)*

Preliminary Study Area Resources Inventory Table

Resource/Affected Environment Measure		Applicability/ & Resources in Study Area	
General Project Information			
Length of project (approximate in miles)		Approximately 2.1 Miles	
Crossing or Intersecting roadways (#)		1 – Interchange (Big Mill Farm Road and I-40 Bus/US 421) (proposed) 7 – Intersections: Harmon Creek Road at Kernersville Road Big Mill Farm Road at Timberview Drive/Big Mill Farm Road Big Mill Farm Road at Selwyck Lane/Lamshire Road Hopkins Road/Big Mill Farm Road at Bluff School Road Hopkins Road at Woodfield Drive Hopkins Road at Timberwood Trail Hopkins Road at Sutter Lane Hopkins Road at W Mountain Street (NC 66)	
Railroad crossings		No crossings; Norfolk Southern railroad is just north of the northern project terminus	
Cultural Resources			
NRHP (and eligible sites, districts, other properties) (#)		Feasibility study does not show any in the project area	
Human Environment			
Community Resources (#)		Timber Woods subdivision community swimming pool. In vicinity of project corridor: 6 - Places of Worship 4 – Schools: Grace House Preschool, Fountain of Life Preschool, La Petite Academy, Cash Elementary School 2 – Hospitals/Medical Facilities: FastMed Urgent Care, Cornerstone Pediatric Assoc. of Kernersville	
Public Parks/Section 4(f) Properties (#)		None	
Greenways, Game Lands, Land and Water Conservation Fund Properties, Bicycle Routes, etc. (#)		The following projects are listed in the WSMPO <i>Sidewalk and Pedestrian Facilities Plan</i> (2007): The Piedmont Greenway is proposed to parallel West Mountain Street. The 2003 Piedmont Greenway Master Plan considered options on both sides of the road, including access to Cash Elementary School north of the project terminus. The Kerners Mill Greenway is proposed to extend from Oakhurst Street to Kilburn Way, crossing Hopkins Road east of the project corridor. Right of way is currently being purchased. The 2007 Kernersville Pedestrian and Bicycle Plan also references additional proposed greenways along Kerners Mill Creek and a UT to Smith Creek within the project corridor.	
Residential Properties (# potentially affected)		Feasibility study estimated 16 (based on 4-lane divided)	
Business Properties (# potentially affected)		Feasibility study estimated 3 (based on 4-lane divided)	
High % Special Populations (Low-income, Minority)		The U-5760 Community Characteristics Report identified low-income populations meeting the criteria for Environmental Justice in the project study area; however, impacts are not anticipated. Also, a potential elderly population may reside in the Timber Trails subdivision.	
Natural Environment			
Streams (# of stream crossings)		3 – Kerners Mill Creek, UT to Kerners Mill Creek, UT to Smith Creek	
Floodplain crossing		Yes	
Wetlands (est. acres)		Four delineated wetlands are adjacent to Hopkins Road.	

Resource/Affected Environment Measure	Applicability/ & Resources in Study Area
Ponds (est. acres connected to jurisdictional waters)	Several ponds are in the study area. Two ponds are connected to UTs leading to jurisdictional waters.
Critical Water Supply Watersheds	None
Riparian Buffer Rules apply	No
Outstanding Resource Waters / High Quality Resource Waters	None
303(d) Listed Streams	None
Identified Critical Habitat/ESA Spp. (# known)	The United States Fish and Wildlife Service list three federally protected species including small-anthered bittercress, bog turtle, and northern long-eared bat.
Physical Environment	
Hazardous Materials (# suspected/known sites)	The GeoEnvironmental Section identified three (3) underground storage tank (UST) facilities within the project area near the intersection of W Mountain Street and Hopkins Road.
Utilities	Power, water, and sewer
Active agriculture (Voluntary Agricultural District)	No VADs present
FEMA Buyout Properties	TBD

NOTES: This table is intended to be used in conjunction with the Environmental Features Map.





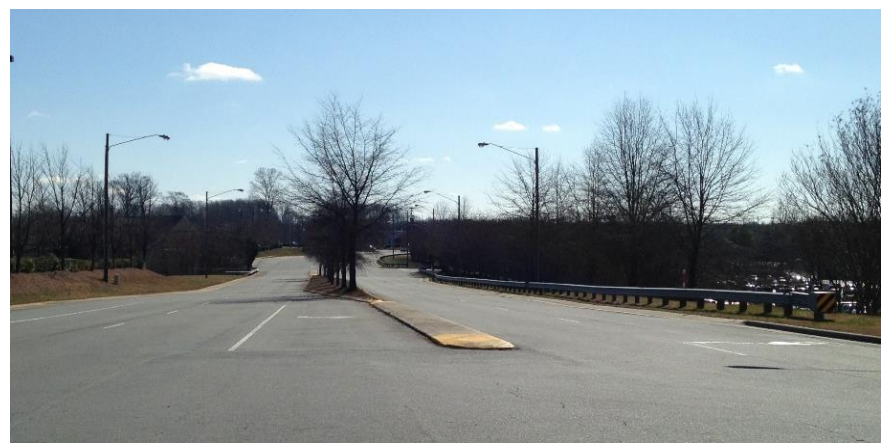
Hopkins Road



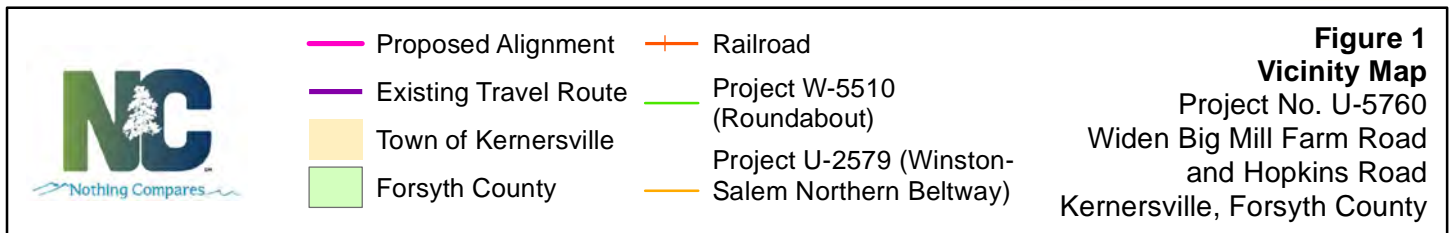
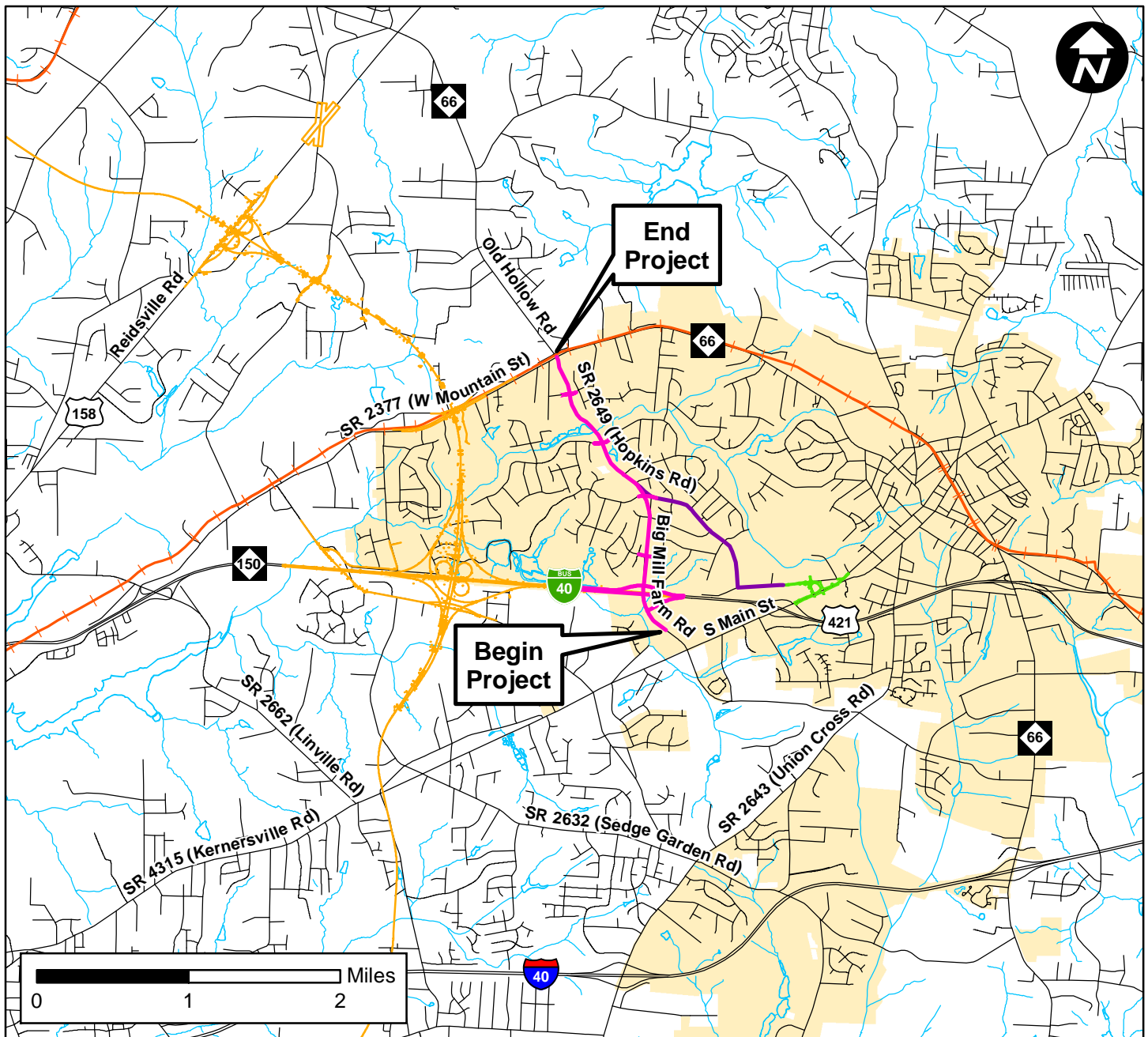
Big Mill Farm Road

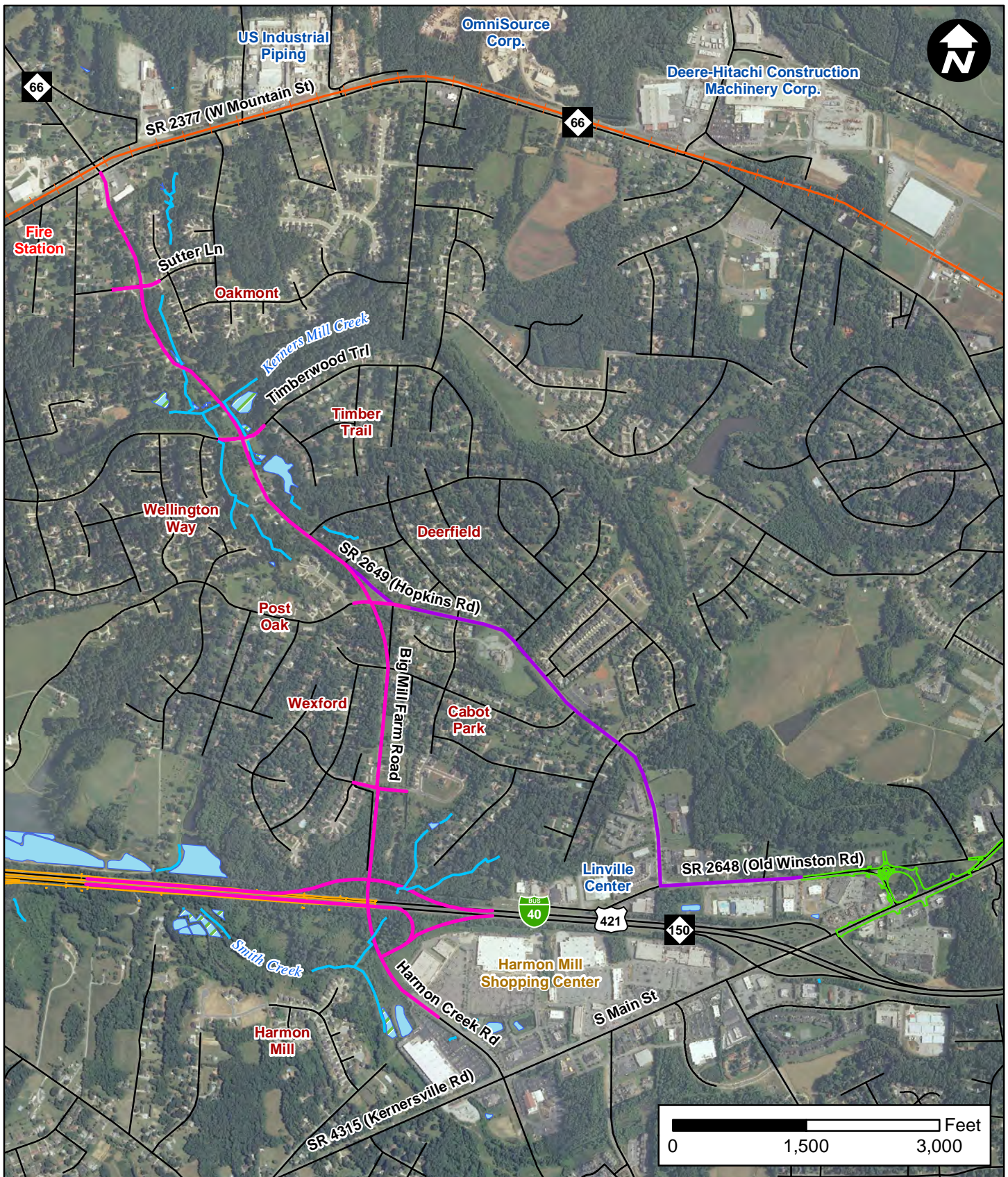


Big Mill Farm Road



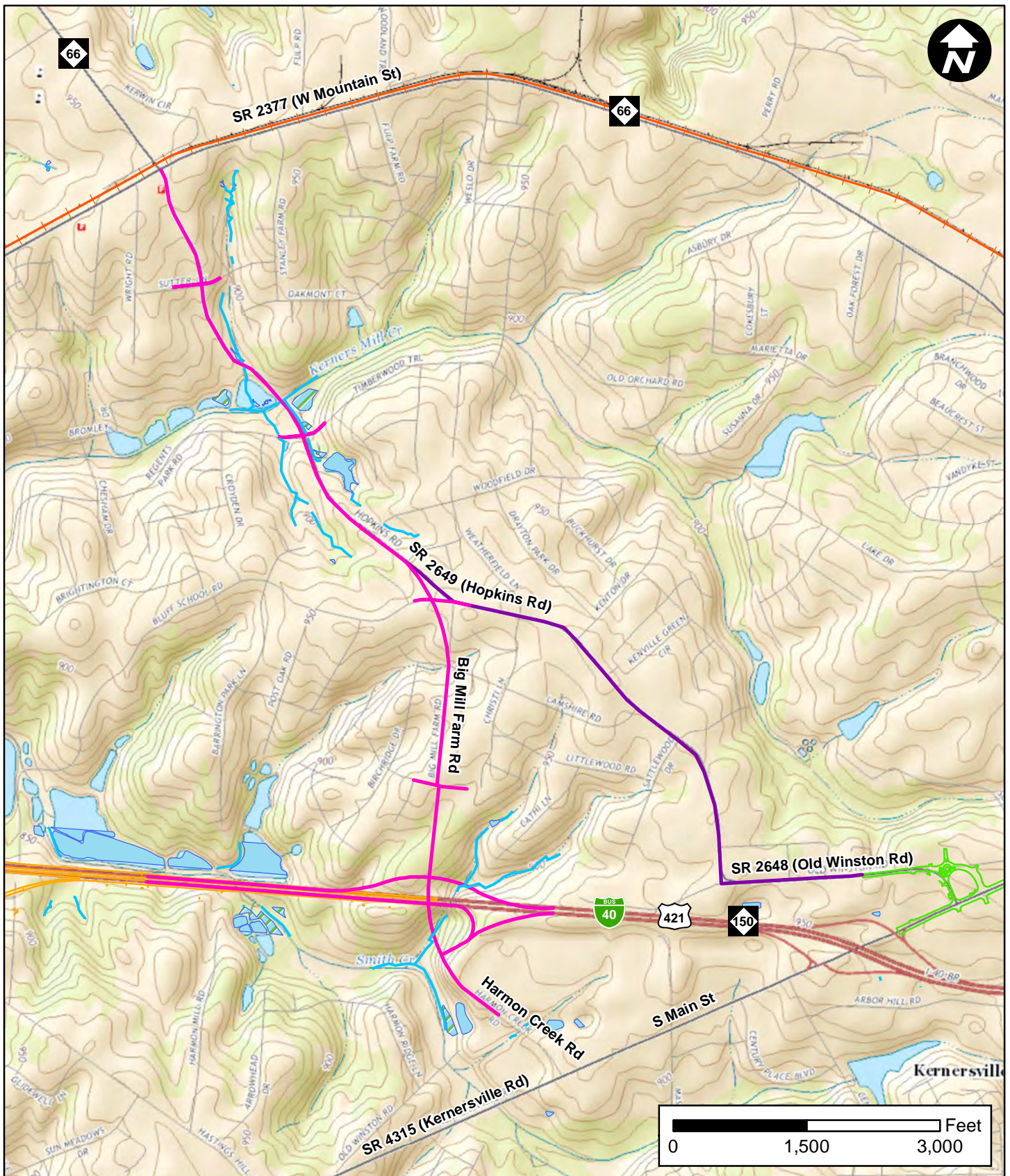
Harmon Creek Road





- | | |
|---|--|
| — Proposed Alignment | —+— Railroad |
| — Existing Travel Route | — Delineated Stream |
| — Project U-2579 | — Delineated Pond |
| — Project W-5510 | ▨ Delineated Wetland |

Figure 2
Environmental Features Map
 Project No. U-5760
 Widen Big Mill Farm Road
 and Hopkins Road
 Kernersville, Forsyth County



- | | |
|--|--|
| — Proposed Alignment | — Railroad |
| — Current Travel Route | — Delineated Stream |
| — Project U-2579 | ■ Delineated Pond |
| — Project W-5510 | ▨ Delineated Wetland |

Figure 3
USGS Map
 NCDOT Project No. U-5760
 Widen Big Mill Farm Road
 and Hopkins Road
 Kernersville, Forsyth County

TIP Project U-5760

Widen Big Mill Farm Road and Hopkins Road
from south of I-40 Bus/US 421 to West Mountain Street

Kernersville, Forsyth County

NCDOT Division 9

WBS 46381

Internal Scoping Meeting

Monday, May 02, 2016

NCDOT Century Center Structures Design Conference Room

Meeting Summary

Attendees

Name	Agency
Wright Archer, III*	NCDOT Div. District Engineer
David Bissette	NCDOT WZTC
Kendra Bridges	NCDOT Bike & Ped
J.P. Couch*	NCDOT Div. Traffic Engineer
Kevin Fischer	NCDOT Structures
Teresa Gresham	Kimley-Horn
Martha Hodge	Calyx
Diane Hampton	NCDOT Div. Planning Engineer
James Harris	NCDOT Rail Division
Jeff Hatling	Town of Kernersville
Rodney Hatton*	NCDOT Division ROW
Doumit Ishak	NCDOT Congestion Management
Pat Ivey	Division Engineer
Donna Jackson	NCDOT Utilities
Rochelle Joseph	Town of Kernersville
Craig Lee	NCDOT Hydraulics

*attended via phone

Name	Agency
Harrison Marshall	NCDOT Community Studies
Meredith McLamb	NCDOT Rail Division
Jeff Moore	Kimley-Horn
Richard Mullinax	NCDOT Rail Division
Bruce Payne	NCDOT Roadway
Kyle Pleasant	NCDOT Utilities
Keith Raulston	NCDOT Division 9
Caitlyn Ridge	Kimley-Horn
Emily Robinson	NCDOT Hydraulics
Jamille Robbins	NCDOT HES/PICS
Don Smith	NCDOT Structures
Mike Stanley	NCDOT TIP
Wilson Stroud	NCDOT PDEA
Hemang Surti	NCDOT TPB
Pat Tuttle	NCDOT Location and Survey
Ronald Wilkins	NCDOT Utilities

Purpose

The purpose of this meeting is to introduce the project to the NCDOT units and gather input from NCDOT and local agencies.

Following introductions, Ms. Gresham described information provided in the scoping packet. Key information, discussion, and input is summarized below.

Project Overview

STIP Project U-5760, scheduled to begin right-of-way in FY 2021 and construction in FY 2023, is part of the proposed Kernersville Boulevard, an envisioned loop around Kernersville. The project proposes to widen Big Mill Farm Road and Hopkins Road (SR 2649) from Harmon Creek Road to W. Mountain Street (NC 66/SR 2377) and construct an interchange at I-40 Business/US 421.

Three roadway segments of the proposed Kernersville Boulevard currently exist and a new interchange was recently constructed at I-40 Business and Macy Grove Road under STIP Project U-2800. Another segment of the loop from Macy Grove Road to N. Main Street will begin right-of-way in FY 2017 and construction in FY 2018 under STIP Project U-4734.

Proposed Purpose and Need for the Project

This project is anticipated to reduce congestion in downtown Kernersville, especially around the interchange of S. Main Street (SR 4315) and I-40 Business/US 421. Additional benefits will be improved mobility and access to major highways in Kernersville and economic development expansion in the area.

Environment and Community

Based on recent delineations, there are 22 streams, 20 wetlands, and 18 ponds within the project area. Three federally protected species have been identified within the project study area. The NRTR has been submitted and is currently undergoing review by NCDOT NES. The resources have not been verified by USACE and NCDWR.

Several schools, a fire station, and several churches are located within the vicinity of the project. Hopkins Road is accessed by multiple neighborhoods and a few individual homes. Some of the neighborhoods have two driveways that access Hopkins Road. No minority communities exceeding the threshold for Environmental Justice are known to be located in the project area, but there are several low-income communities. Mobile homes are located along the unpaved section of Big Mill Farm Road. A retirement community appears to be located in the Timber Trails Subdivision.

Existing and Proposed Roadway

The existing typical section of Hopkins Road and Big Mill Farm Road is a 2-lane undivided roadway. The southern section of Big Mill Farm Road is unpaved. The existing AADT is approximately 9,000 vehicles per day (vpd) on Hopkins Road and 400 vpd on Big Mill Farm Road. Harmon Creek Road is a 4-lane median-divided roadway, which was constructed by a developer (as required by the Town) in anticipation of this project. Kernersville Road and S. Main Street near the I-40 Business interchange have an AADT of 20,000 vpd and 36,000 vpd, respectively.

The number of lanes on the proposed project will be determined by the traffic forecast. The typical section is expected to be a 2- or 4-lane median divided roadway with curb and gutter, sidewalks, and bicycle facilities. Some residents along the corridor have expressed concern in widening the roads. The town and MPO plans refer to both a 2-lane and 4-lane median divided typical section. The control of access along the proposed corridor is to be determined, but the existing access is primarily partially controlled due to the permitted driveway locations.

The configuration of the proposed I-40 Business interchange shown in the scoping packet was from the *Town of Kernersville Feasibility Study* (2008). That configuration includes a ramp with a 130-foot radius,

which would require a design exception. New or refined alternatives that meet standard design requirements will be considered during the design phase. The interchange is less than one mile between adjacent interchanges, and auxiliary lanes are anticipated. The feasibility study also identified specific full movement intersections along the corridor, which will be revisited as part of this project.

Local plans show several multi-modal facilities proposed in the vicinity of the project. The proposed Kerners Mill Greenway is shown crossing Hopkins Road. The portion of Kerners Mill Greenway located east of Hopkins Road is the only multi-modal facility in the area currently funded.

Potential Impacts and Design Issues

- Based on the 4-lane median-divided roadway shown in the feasibility study, there was noted potential to impact 16 residential homes and 3 businesses.
- If Hopkins Road near W. Mountain Street needs modifications, then the project may encroach into the railroad right of way. If that occurs, a railroad grade separation will be considered. However, this project currently has no funding for a grade separation.
- There are multiple utilities at the northern termini of this project and along Hopkins Road.
- NCDOT Hydraulics noted three FEMA crossings along the corridor involving Smith Creek and Kernersville Creek.
- Residents surrounding the project have expressed concern in the past about physical and visual impacts this project would create along Hopkins Road and Big Mill Farm Road.

Project Initiation Input

The following comments were provided, in addition to input provided in previous meetings or via written responses:

NCDOT Division has no comments.

NCDOT Roadway asked if the Town would request that Hopkins Road be grade separated at the future Kerners Mill Greenway. The Town of Kernersville is doing a feasibility study on the greenway. A grade separation may be difficult because of the crossing's location in the floodplain.

NCDOT Hydraulics noted that a flood study will be needed due to the crossing within the floodplain and floodway.

NCDOT Structures has no comments.

NCDOT WZTC suggested considering use of temporary pavement during traffic control when designing the grade along the project corridor.

NCDOT Utilities said the sewer lift station that may be impacted by this project is operated by the County Utility Commission. It is recommended that wet and dry utilities be relocated by the Town prior to let of the project. The Town of Kernersville recently moved major lines in the NW quadrant of the I-40 Business interchange. NCDOT Utilities is concerned about potential construction at the railroad crossing due to possible utilities under the railroad. It is recommended that the relocation of the utilities and obtaining railroad permits be the responsibility of the utility owners.

NCDOT Bicycle & Pedestrian has no comments.

NCDOT HES said the impacts to EJ and Title VI populations needs to be considered during design. It is also recommended that the Indirect and Cumulative Effects Study should include consideration about this project being a part of a larger project (Kernersville Boulevard).

NCDOT Rail says the environmental document should consider grade separation across the railroad as an option if the project encroaches into the railroad right of way (widening or turn lanes). This section of the railroad is not a main line. There are six to eight trains that use this crossing per day. All construction should be outside of the railroad right-of-way.

NCDOT Congestion Management has no comments.

NCDOT Location & Surveys noted that surveys have been flown for this project, and will be provided.

NCDOT STIP inquired whether NC 66 would be rerouted along the project corridor. Ms. Gresham said that although there has not been discussion about rerouting NC 66, it is likely that this route will attract a wider mix of vehicle types than currently use the roads. NCDOT STIP requested that neighborhood concerns be taken into consideration when making that determination.

NCDOT TPB has no comments.

NCDOT ROW has no comments.

Town of Kernersville says there is a lot of history behind the I-40 Business interchange location shown in the *Town of Kernersville Feasibility Study*. The Town has studied this project several times since it was added to the local transportation plan in 1979, and has been unable to find an alternate route that would address the project need.

Additional Input

The following units provided input following this meeting:

NCDOT Geotechnical – No comments.

NCDOT Roadside Environmental – The scoping data sheets (page 7) says that riparian buffer rules apply. However, the project is in the Yadkin – Pee Dee River Basin, and potentially in the Roanoke River Basin (north of West Mountain Street), neither of which presently have riparian buffer rules.

NCDOT Noise and Air Quality – A Traffic Noise Analysis and Project-Level Qualitative Air Quality Analysis will be required.

NCDOT GeoEnvironmental – Pre-scoping comments were provided on March 31, 2016. Three UST facilities were identified within the project area, all at the intersection of W. Mountain Street and Hopkins Road. Anticipated risk and impact are low for all three sites.

NCDOT Safety – No comments.

NCDOT Natural Environment Section – No comments.

Public Outreach

This summer, intentional design discussions will begin with the public through a design charrette. Other public and key stakeholder meetings will be held throughout the planning and design of the project. A website will be created for the project. Tools such as visualizations and hands-on activities will be used during discussions.

Key Milestones:

- Public meeting – Summer 2016
- External scoping meeting/Merger screening – Fall 2016
- Traffic forecast – Fall 2016
- Preliminary designs – Fall 2017

- EA – Spring 2018
- FONSI – Early 2019
- Right of way – FY 2021
- Construction – FY 2023

Project Contacts:

NCDOT PDEA
Project Development Engineer
Wilson Stroud
919-707-6045
wstroud@ncdot.gov

NCDOT Division 9 Planning Engineer
Planning Engineer
Diane Hampton
336-747-7800
dkhampton@ncdot.gov

Kimley-Horn
Project Manager
Teresa Gresham, P.E.
919-677-2194
teresa.gresham@kimley-horn.com